How Green is my Smart City

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The Indian government has set itself a 2022 deadline as the delivery date for 100 ready and functioning Smart Cities. The promotion of green growth is one of the government's stated objectives in building these Smart Cities. Where are the plans to make this happen?

Source: Smart City, The HAACS Magazine, Netherlands

FOUNDATIONS OF THE ARGUMENT

Pressing environmental threats have necessitated a search for growth and policy options which can satisfy both economic and environmental objectives simultaneously. The Government of India's (GoI) Smart Cities concept is an initiative[1] that hopes to address this challenge of urbanisation. The Smart Cities are emerging as recent urban instruments to propel growth in an environmentally sustainable manner. According to the Ministry of Urban Development (MoUD), a smart city needs to promote economic activities by developing the required institutional, physical, social and economic infrastructure.[2]

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[1] Some other initiatives by the Indian government comprise the Swacch Bharat Mission, the Urban Renewal Mission, the 'Housing for All' Scheme, and the Heritage Rejuvenation and Development (HRIDAY) Scheme.
[2] Draft Concept Note on Smart Cities, September 2014, Ministry of Urban Development, Government of India. http://indiansmartcities.in/downloads/CONCEPT_NOTE_-3.12.2014__REVISED_AND_LATEST_.pdf

The vision of the Narendra Modi government is to develop 100 Smart Cities by 2022[3], the deadline for the first three of which is 2019.[4] An allocation of Rs 7060 crore has been made for this in Budget 2014-15. The MoUD has also identified the locations where these cities are to be built as well as which of the existing cities can be remodelled on these lines.

PROBLEM CONSTRUCTION

Urban planning has the largest impact on a city's energy use and greenhouse gas (GHG) emissions. Hence, it needs to be done in a manner that employs the best mix of land-use density and transportation network in order to reduce carbon emissions at least cost.

The need of the hour is to discover new policies and implementation strategies which can generate such positive social, environmental and economic impact. And to ensure sustainability of urban transformation, the path chosen to reach the desired goal has to be a 'green path'. The Smart Cities programme of the government is an attempt made in the direction of achieving this green growth.

So, where are the blueprints on how India's Smart Cities are to augment green growth in a fast-urbanising India?

MODELLING SMART CITIES IN INDIA

There have been rising concerns on how the proposed Smart Cities can be modelled in a country like India.

First, Information and Communication Technology (ICT) is to form the backbone of Smart Cities. Everything, from governance to public transport, water distribution and waste-disposal systems would make use of technology for efficient use of resources. Experts have, in fact, suggested that India will need to rely even more on technology to build its Smart Cities because, given the lack of basic governance and physical infrastructure, technology becomes an imperative to running the highly calibrated systems required for such cities. For instance, according to India's leading Geographic Information System (GIS) software and solutions provider Esri's[5], *White Paper – GIS for Smart Cities*, GISs can be used as one of the tools to reach out and develop "smart" communities in order to protect environment and promote economic development.

Second, some states in India have begun experimenting with creating new Smart Cities; such as the Gujarat International Finance Tec-City and Smart City Kochi in Kerala. But this thrust on creation of new Smart Cities must go hand in hand with improving existing decongested cities such that they too are transformed into smarter versions of themselves.

Third, an early advantage that India's Smart Cities have is the international support already on offer. Japan has proposed to extend its help in transforming Varanasi into a Smart City. American companies have forwarded help in improving facilities in Aurangabad, Ajmer and Vishakhapatnam.[6] The US companies are,

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[3]http://archive.financialexpress.com/news/govt-to-identify-100-smart-cities-before-union-budget-says-venkaiah-naidu/1291659/1
[4] These three will be built as a part of the Delhi-Mumbai Industrial Corridor (DMIC)
http://www.dailymail.co.uk/indiahome/indianews/article-2738057/Modis-vision-smart-cities-takes-shape-government-zeroes-scores-sites-country.html
[5] Esri India is India's leading Geographic Information System (GIS) software and solutions provider. It was established in 1996, as a joint venture between Esri Inc., USA and NIIT Technologies (NTL), India. (http://esriindia.com)
[6] http://blogs.wsj.com/indiarealtime/2015/01/30/is-india-ready-for-smart-cities/

in fact, ready to contribute capital and global expertise to developing solutions for these cities. So international handholding is already present, what India needs now is the right financial environment to ensure the success of these business models.

THE FRAMEWORK NEEDED TO BUILD AHEAD

The blueprint of a Smart City has to capture several aspects, over and above a committed focus on technological improvements.

- The success of Smart Cities requires persistent inputs from the government:
  - By providing the necessary technical assistance and knowledge sharing to develop green infrastructure. Also, generating an awareness of the latest relevant technologies and the ability to reinvent these with regard to an area's topography, location and natural resources
  - Helping achieve upfront investments which is a must if a city is to develop into a low-carbon society
  - Innovating new financial instruments such as cap-and-trade systems, environmental grants, and public-private partnerships which can initiate green growth goals
  - Implementing carbon taxes or other pricing mechanisms which could foster the growth of urban green growth policies
- Besides the governmental interventions mentioned above, tangible insights and inputs are required in the following areas:
  - Monitoring will need a common set of urban environmental and economic indicators to measure the growth process to achieve sustainable growth. The use of market information and knowledge of local environment can help assess local energy use and relate emissions to economic activities
  - Improved governance and the need for well-designed urban strategies to foster sustainable growth. The focus should be on coordination across several government departments to ensure better governance
  - Engaging citizens in decision making process is key to the development of a Smart City. This will need ensuring active participation of urban local bodies (ULBs) to inculcate transparency and accountability
  - Improved mobility via increased investment in public transport systems is necessary to make cities more energy efficient, better connected and pollution free. Improving urban mobility via a well-developed public transportation system can give a huge boost to developing these cities
  - Ensuring continuous access to required finances is a must for efficient and sustainable development of the Smart Cities

THE MISSING PLANS

Knowing a Smart City model is knowing that the actual implementation of such a concept is challenging. Take for instance, Bengaluru and Gurgaon, two townships that have almost all that it takes to be a smart city, but are yet so low on green growth.

Bengaluru has developed as an industrial hub with access to Wi-Fi systems, online grievance-redressal systems, and several other digital solutions. The city, however, cannot be termed a Smart City because it lags in terms of basic public utilities, poor electricity and waste disposal systems. Similarly Gurgaon, the biggest satellite city in the NCR (National Capital Region), remains untouched by the concept of sustainable growth. The suburb boasts of high-tech infrastructure ranging from modernised private hospitals to the well-connected metro. But it has become an example of a concrete jungle ruled by civic chaos, simply because the development process has been unplanned and arbitrary.

It can therefore be said that execution and delivery are both equally necessary in planning for successful Smart Cities.

And even though Smart Cities have been identified as engines of sustainable growth for modern India, the implementation plans are missing. There is no documented blueprint, or indeed proper guidelines, that indicate how green growth will be incorporated.

Even the Smart Cities Initiative[7] by the MoUD does not define means to achieve the targeted goals. The few plans available in the public domain do no more than draw up sketchy guidelines:

- To get access to clean air, the action planned is as elementary as planting more trees and to stop burning of solid wastes. Higher CO_2 emissions from vehicles is one of the primary source of air pollution and there is a need for Pollution Control Board and Regional Transport Offices to implement laws for reducing CO_2 emission levels of vehicles[8]

- For cleanliness of public places, the prescription is to remove posters and advertisements in order to maintain clean walls and public properties like bus stop shelters and bridges

- As far as waste management and public hygiene are concerned, detailed plans seem even more scarce. The instances that are available seem too simplistic to match up to the ambition of the Smart City concept. An example being, the Municipal Corporation has been advised to build proper solids waste management programme towards management of poultry wastes, and also advised that this be supplemented by inculcating a stronger civic sense among the citizens for fruitful implementation of such a programme.[9]

Each of these suggested measures are very preliminary. Needless to emphasise that the path to green growth entails much more detailed and elaborate planning.

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